

In the Claims

1. (Original) A method for minimizing the Inter-Document Zone (IDZ) in multi-pass printing system architectures with print engines employing asynchronous paper delivery; and providing control over paper feed and imaging times comprising:

- a) receiving input electronic data of an image intended to be printed;
- b) inspecting said data to determine both the lead edge (L.E.) and the trail edge (T.E.) blank borders of said image; and
- c) on a page by page basis determining whether said blank borders exceed a minimum design distance and adjust imaging and paper delivery timing accordingly to increase subsequent printing speed.

2. (Original) The method of claim 1 where when the L.E. blank borders exceed the minimum design distance the images corresponding to that page are printed sooner than nominally.

3. (Original) The method of claim 1 where the T.E. blank borders exceed the minimum design distance the image corresponding the subsequent document are printed sooner than nominally.

4. (Original) The method of claim 1 where the T.E. blank borders exceed the minimum design distance any transition events timing is performed sooner than nominally.

5. (New) A method for managing a size of an inter-document zone in a printing system having an imaging subsystem and a recording medium transport subsystem, the printing system executing transition events, comprising:

identifying a leading edge non-image zone of an electronic image to be rendered, the electronic image to be rendered having a plurality of scanlines, each scanline containing a plurality of pixels of image data, the leading edge non-image zone being a portion the electronic image from a first scanline of the electronic image to a scanline of the electronic image immediately preceding a scanline of the electronic image having first renderable image data;

determining a length of the leading edge non-image zone, the length being orthogonal to a direction of a scanline of the electronic image;

comparing the length of the leading edge non-image zone to a predetermined value; and

adjusting a timing of an imaging process executed by the imaging subsystem when the length of the leading edge non-image zone exceeds the predetermined value.

6. (New) The method as claimed in claim 5, wherein the timing of the imaging process is adjusted on a page by page basis.

7. (New) The method as claimed in claim 5, further comprising:

adjusting a timing of a recoding medium delivery process executed by the recording medium transport subsystem when the length of the leading edge non-image zone exceeds the predetermined value.

8. (New) The method as claimed in claim 7, wherein the timing of the recoding medium delivery process is adjusted on a page by page basis.

9. (New) The method as claimed in claim 5, further comprising:

identifying a trailing edge non-image zone of an electronic image to be rendered, the trailing edge non-image zone being a portion the electronic image from a last

scanline of the electronic image to a scanline of the electronic image immediately following a scanline of the electronic image having last renderable image data; and

adjusting a timing of an imaging process executed by the imaging subsystem when the length of the trailing edge non-image zone exceeds the predetermined value.

10. (New) The method as claimed in claim 9, wherein the timing of the imaging process is adjusted on a page by page basis.

11. (New) The method as claimed in claim 9, further comprising:

adjusting a timing of a recoding medium delivery process executed by the recording medium transport subsystem when the length of the trailing edge non-image zone exceeds the predetermined value.

12. (New) The method as claimed in claim 11, wherein the timing of the recoding medium delivery process is adjusted on a page by page basis.

13. (New) The method as claimed in claim 9, further comprising:

adjusting a timing of a transition event executed by the printing system when the length of the trailing edge non-image zone exceeds the predetermined value.

14. (New) The method as claimed in claim 13, wherein the timing of the transition event is adjusted on a page by page basis.

15. (New) A method for managing a size of an inter-document zone in a printing system having an imaging subsystem and a recording medium transport subsystem, comprising:

identifying a leading edge non-image zone of an electronic image to be rendered, the electronic image to be rendered having a plurality of scanlines, each scanline containing a plurality of pixels of image data, the leading edge non-image zone being a portion the electronic image from a first scanline of the electronic image to a scanline of the electronic image immediately preceding a scanline of the electronic image having first renderable image data;

determining a length of the leading edge non-image zone, the length being orthogonal to a direction of a scanline of the electronic image;

comparing the length of the leading edge non-image zone to a predetermined value; and

adjusting a timing of a recoding medium delivery process executed by the recording medium transport subsystem when the length of the leading edge non-image zone exceeds the predetermined value.

16. (New) The method as claimed in claim 15, wherein the timing of the recoding medium delivery process is adjusted on a page by page basis.

17. (New) The method as claimed in claim 15, further comprising:

identifying a trailing edge non-image zone of an electronic image to be rendered, the trailing edge non-image zone being a portion the electronic image from a last scanline of the electronic image to a scanline of the electronic image immediately following a scanline of the electronic image having last renderable image data; and

adjusting a timing of a recoding medium delivery process executed by the recording medium transport subsystem when the length of the trailing edge non-image zone exceeds the predetermined value.

18. (New) The method as claimed in claim 17, wherein the timing of the recoding medium delivery process is adjusted on a page by page basis.

19. (New) The method as claimed in claim 17, further comprising:

adjusting a timing of a transition event executed by the printing system when the length of the trailing edge non-image zone exceeds the predetermined value.

20. (New) The method as claimed in claim 19, wherein the timing of the transition event is adjusted on a page by page basis.